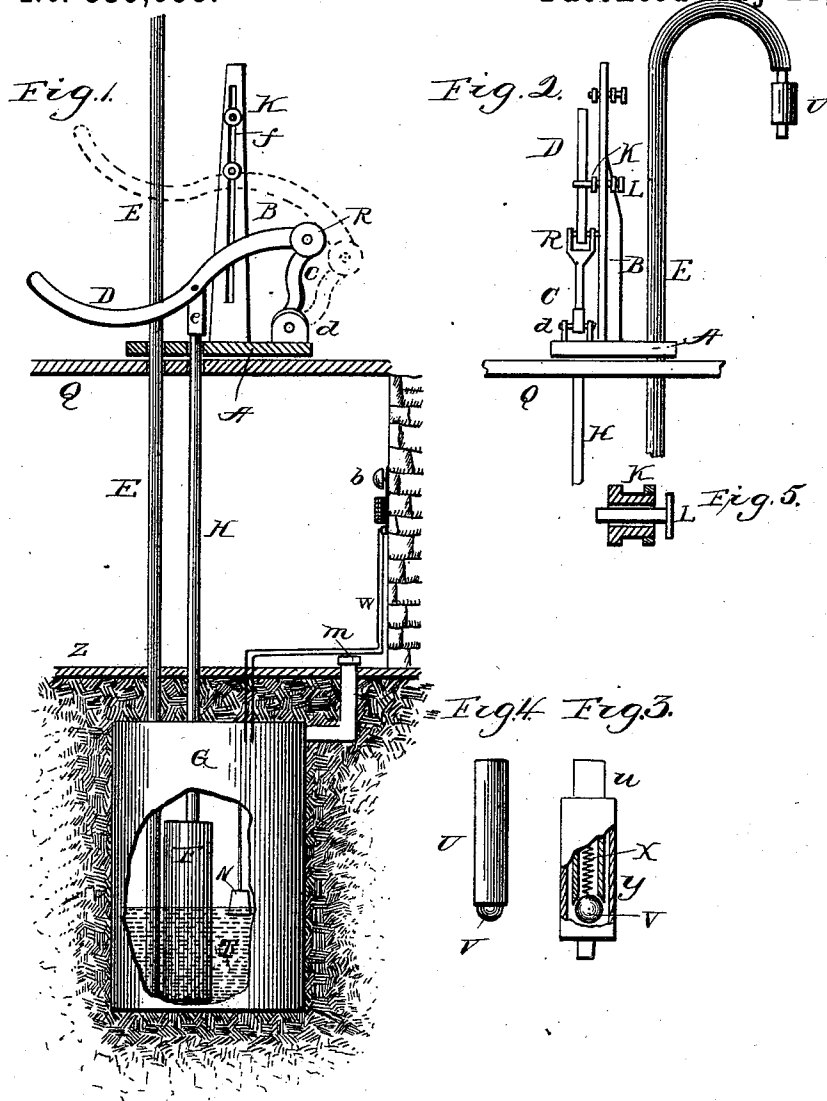


(No Model.)

C. A. THOMPSON.
MEASURING PUMP AND INSULATED OIL TANK.

No. 539,656.

Patented May 21, 1895.



Charles Albert Thompson
Inventor

Witnesses:

J. M. Fowler Jr.
E. M. Grady

UNITED STATES PATENT OFFICE.

CHARLES ALBERT THOMPSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

MEASURING-PUMP AND INSULATED OIL-TANK.

SPECIFICATION forming part of Letters Patent No. 539,656, dated May 21, 1895.

Application filed November 28, 1894. Serial No. 530,286. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ALBERT THOMPSON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Self-Measuring Pumps and Insulated Oil-Tanks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My improvement relates to that class of oil pumps and tanks in which the highly inflammable oils are placed in insulated tanks preferably buried in the ground and connected with measuring pumps, which dispenses with the use of measures, and the oil is discharged directly into the receiving vessel.

My invention also comprises an automatic valve in the discharge pipe that stops the flow of oil after the movement of the piston ceases. I accomplish these objects by the mechanism illustrated in the accompanying drawings, in which similar letters refer to like parts throughout the several views.

Figure 1 is a side elevation showing the operation of the lever or handle portion of the pump and the method of regulating by stops the amount of oil drawn in the body of the pump. It also shows the body of the pump inside the tank and a convenient form of insulating the tank by burying it in the ground. Fig. 2 is another view of the upper portion of the pump and shows the automatic valve attached to the discharge-pipe. Figs. 3, 4, and 5 are detail portions referred to in this description.

"A" is a metal base cast with an upright "B" which is slotted to receive adjustable stops "K."

"C" is a connecting piece joining the handle "D" with the base "A," being pivoted at "R" and *d*. The arm "C" being loosely pivoted to the base "A" and to the handle "D" it can oscillate back and forth allowing the piston rod to be raised without lateral strain; the difference in the distance between the fulcrum and rod being compensated by the movement of arm "C."

"E" is the discharge pipe secured to the barrel of the pump "F" and passes through the base "A."

"F" is the pump containing the plunger, and is secured in the bottom of the tank "G."

"H" is the piston rod which operates the plunger, and is pivoted to the handle "D" at *e*.

"S" shows the earth surrounding the tank "G."

"N" is a float in the tank and is connected to a strip of metal *o' o'* which in turn is made part of the circuit operating an alarm bell *b* on the wall *W*, the circuit being closed by the weight of the float "N" bringing the two pieces of metal *o o'* in contact, when the oil falls to a certain height.

"Q" is a section of the store floor, and "Z" shows the concrete on cellar floor.

"U" is an automatic valve placed preferably in the end of the discharge pipe "E." It is made of rigid material consisting of a tube "U," a valve "V" and a spring "X." The spring "X" holds the valve "V" closely against the tube "U" when the pump is at rest, but when the oil is forced by pressure of the handle "D," the valve "V" is thrown out and the oil discharged, but as soon as the pressure is removed the valve closes and the cut off is complete, overcoming the objectionable dripping.

The operation of my invention is as follows: The tank being filled by means of the pipe *m*, which is closed by an ordinary cap, the pump is ready for operation. Should it be desired to draw a quart of oil, the stop "K" which has been adjusted to allow the handle "D" to rise the exact height necessary to draw a quart into the barrel of the pump "F" is set by pushing the pin "L" out as shown in Fig. 2. Then the handle will be raised as shown in Fig. 1 by dotted lines and the necessary amount of oil be drawn in the pump. By depressing the handle the oil will, by the ordinary construction of the pump valves, be forced out through the discharge pipe "E" and automatic valve tube "U." ("Y" is simply an outside tube to prevent the oil from spraying.)

Fig. 5 shows the manner of making the stop "K." It is a tube with a flange on one end and a nut on the opposite end. Between these two the pin "L" passes. The stops "K"—there being one for each amount of oil to be measured—are clamped by means of

the flanges and nuts at the proper heights in the slot *f*.

When the oil in the tank is drawn out below a certain amount the float "N" will cause the parts *o o'* to come together and close the circuit between a battery and the alarm bell on the cellar wall "W," and attention be called to the condition of the oil in the tank "G."

10 Self measuring pumps are common and I make no claim to the construction of the main portion; nor do I confine myself to any particular material or exact shape of any of the parts, but

15 What I claim as new, and desire to secure by Letters Patent, is—

1. A suction pump having its cylinder inclosed within a protecting case immediately surrounded with an insulating covering of 20 earth or other nonconductor and having its operating mechanism above or outside of the insulating covering, substantially as set forth.

2. A suction pump having its cylinder inclosed within a protecting case buried in the 25 earth whereby it is surrounded with an insulating covering of earth or the like and having its operating mechanism above or outside of the insulating covering, substantially as set forth.

30 3. The combination with a storage tank, of a suction pump having a measuring mechanism and a discharge pipe having a valve adjacent to its discharge end, which valve is provided with automatic means for closing 35 the same and which is adapted to be opened by the pressure of the liquid substantially as set forth.

4. A suction pump provided with a suitable

base, a slotted upright or bracket mounted thereon, stops adjustable at any predetermined point in said slot—these stops being 40 tubes which are adjusted in the slot and having movable pins which can be pushed in and out of the path of the lever,—a movable fulcrum pivoted to said base, a lever or handle 45 pivoted to the fulcrum and operating against a stop, which determines the amount of liquid to be drawn and connected with the piston rod, and a discharge pipe, substantially as set forth. 50

5. A suction pump provided with a suitable base, a slotted upright or bracket mounted thereon, stops adjustable at any predetermined point in said slot, a fulcrum pivoted to said base, a lever pivoted to the fulcrum 55 and connected with the piston rod, and a discharge pipe with a valve adjacent to its discharge end, which is provided with automatic means for closing the same, and which is opened by the pressure of the liquid, when 60 the pump is operated, substantially as set forth.

6. In combination with a suction pump provided with a measuring mechanism and a discharge pipe, a valve on the delivery end of 65 the discharge pipe yieldingly resting on its seat so that the pressure of the liquid, when the pump is operated, will cause it to open, substantially as described.

In testimony whereof I affix my signature 70 in presence of two witnesses.

CHARLES ALBERT THOMPSON. [L. S.]

Witnesses:

O. T. THOMPSON,
W. W. NAIRN.